

Christopher S. Lau

Education

- A.B., Duke University, Durham, NC; Chemistry/Zoology, 1975.
- Ph.D., Duke University, Durham, NC; Pharmacology, 1982.

Professional Experience

- 1984-1990: Research Scientist, NSI Technology Services, Contractor to EPA.
- 1990-2005: Pharmacologist, EPA.
- 2005-present: Lead Research Biologist, EPA.

Research Interests

- Developmental Toxicity.
- Cellular and Molecular Mechanisms.
- Dose-response Modeling.

Professional Activities

- Adjunct Faculty: Dept. Pharmacology and Cancer Biology, Duke University Medical Center, Durham, NC.; Dept. Biology, North Carolina Central University, Durham, NC.; Dept. Molecular and Biomedical Sciences, College of Veterinary Medicine, North Carolina State University, Raleigh, NC.
- Editorial Boards: Reproductive Toxicology, Toxicology, Brain Research Bulletin.
- EPA Bronze Medals for Commendable Service: 2005, 2006.
- Organizer, Perfluoroalkyl Acids Days workshop in Research Triangle Park to highlight perfluorinated chemical research at the EPA Office of Research and Development. 2006.
- Organizer, Contemporary Concepts in Toxicology Workshop on Perfluoroalkyl Acid Research, Society of Toxicology. 2006-present.
- Member, study design team on perfluoroalkyl acid research, National Toxicology Program, National Institute of Environmental Health Sciences. 2004-present.
- Continuing Education Committee, Teratology Society: Member 2003-present; Secretary 2005-2006; Chair 2006-2007.
- Reviewer, EPA Office of Prevention, Pesticides and Toxic Substances risk assessment on toxicity of perfluorooctanoic acid. 2005.
- International Advisor to FLUOROS: An International Symposium on Fluorinated Alkyl Organics in the Environment. 2004-2005.
- Reviewer, EPA Office of Prevention, Pesticides and Toxic Substances risk assessment on the developmental toxicity perfluorooctanoic acid. 2004.
- Organizer, Workshop at Research Triangle Park, NC, on trace analysis of perfluoroalkyl acids. 2004.

- Reviewer, EPA Office of Prevention, Pesticides and Toxic Substances Integrated Risk Information System assessments on toxicity of Perfluorooctane Sulfonate and perfluorooctanoic acid (PFOA). 2003.
- Briefing on reproductive and developmental toxicity of perfluorooctane sulfonate (PFOS), Office of Prevention, Pesticides and Toxic Substances. 2003.
- Briefing on reproductive and developmental toxicity of perfluoroalkyl acids, Centers for Disease Control and Prevention. 2002.
- Reviewer, EPA Office of Prevention, Pesticides and Toxic Substances risk assessment of thiourea. 2002.
- Organizer, annual meetings on perfluorinated chemicals with EPA Office of Prevention, Pesticides and Toxic Substances, industry and academic scientists. 2000-present.

Invited Lectures/Symposia

- Netherland Organization for Applied Scientific Research, TNO Centers for Food and Nutrition Meeting, Zeist, Netherlands: Pathogenesis for the neonatal mortality in rodents induced by exposure to perfluoroalkyl acids during pregnancy. 2006.
- 3rd International Congress on Developmental Origins of Health and Diseases, Toronto, Canada: Altered physiological response in adult rats after in utero exposure to perfluorooctane sulfonate or atrazine. 2005.
- Henry Stewart Course on Abnormal Development: Embryonic and fetal origins of physiological disorders. 2005.
- National Fish Forum, Baltimore, MD: Developmental toxicity of PFOS and PFOA. 2005.
- Integrated Toxicology Program, Duke University: Adverse outcomes for developmental exposure to perfluorooctanoic acid. 2005.
- International Society of Exposure Analysis, Stresa, Italy: Maternal and developmental toxicity of perfluorooctane sulfonate in the rat. 2003.
- Integrated Toxicology Program, Duke University: Developmental toxicity of perfluorooctane sulfonate. 2003.
- EPA Region V, Chicago, IL: Perfluorooctane compounds in the environment: PFOS toxicity studies. 2003.
- Mid-Atlantic Reproductive Toxicology Association: Developmental toxicity of perfluoroalkyl acids and their derivatives. 2003.
- Southampton Hospital, Southampton, UK: Adverse developmental outcomes after prenatal exposure to chemicals: a study with PFOS. 2002.
- Research Triangle Institute International: Developmental toxicity of perfluorooctane sulfonate. 2002.

Selected Publications

Chang SC, Thibodeaux JR, Eastvold ML, Ehresman DJ, Bjork JA, Froehlich JW, **Lau C**, Singh RJ, Wallace KB, Butenhoff JL. 2008. Thyroid hormone status and pituitary function in adult rats given oral doses of perfluorooctanesulfonate (PFOS). *Toxicology* 243(3):330-339. [Abstract](#)

Lau C, Seed J. 2007. Perfluorooctanoic acid and its environmental risks. In: *Yearbook of Science and Technology*, McGraw-Hill Encyclopedia of Science and Technology, pp. 176-178.

Abbott BD, Wolf CJ, Schmid JE, Das K, Zehr R, Helfant L, Nakayama S, Lindstrom AB, Strynar MJ, Lau C. 2007. Perfluorooctanoic acid (PFOA)-induced developmental toxicity in the mouse is dependent on expression of peroxisome proliferator activated receptor-alpha (PPAR- α). *Toxicol Sci.* 98:571-81. [Abstract](#)

Rosen MB, Thibodeaux JR, Wood CR, Zehr RD, Schmid JE, Lau C. 2007. Gene expression profiling in the lung and liver of PFOA-exposed mouse fetuses. *Toxicology.* 239:15-33. [Abstract](#)

Lau C, Anitole K, Hodes C, Lai D, Pfahles-Hutchens A, Seed J. 2007. Perfluoroalkyl acids: A review of monitoring and toxicological findings. *Toxicol Sci.* 99:366-94. [Abstract](#)

Martin MT, Brennan RJ, Hu W, Ayanoglu E, Lau C, Ren H, Wood CR, Corton JC, Kavlock RJ, Dix DJ. 2007. Toxicogenomic study of triazole fungicides and perfluoroalkyl acids in rat livers predicts toxicity and categorizes chemicals based on mechanisms of toxicity. *Toxicol Sci.* 97:595-613. [Abstract](#)

Chang S, Thibodeaux JR, Eastvold ML, Ehresman DJ, Bjork J, Froehlich JW, Lau C, Singh RJ, Wallace KB, Butenhoff JL. 2007. Negative bias from analog methods used in the analysis of free thyroid hormones in rat serum containing perfluorooctane sulfonate (PFOS). *Toxicology.* 234:21-33. [Abstract](#)

Wolf CJ, Fenton SE, Schmid JE, Calafat AM, Kuklenyik Z, Thibodeaux JR, Das K, White SS, Lau C, Abbott BD. 2007. Developmental toxicity of perfluorooctanoic acid (PFOA) after cross foster and restricted gestational exposures. *Toxicol Sci.* 95:462-73. [Abstract](#)

Lau C, Thibodeaux JR, Hanson R, Narotsky MG, Rogers JM, Lindstrom AB, Strynar MJ. 2006. Effects of perfluorooctanoic acid exposure during pregnancy in the mouse. *Toxicol Sci.* 90:510-519. [Abstract](#)

Grasty R, Bjork JA, Wallace KB, Wolf DC, Lau C, Rogers JM. 2005. Effects of prenatal perfluorooctane sulfonate (PFOS) exposure on lung maturation in the perinatal rat. *Birth Defects Res B Dev Reprod Toxicol.* 74:405-16. [Abstract](#)

Lau C, Rogers JM. 2004. Embryonic and fetal programming of physiological disorders in adulthood. *72:300-12.* [Abstract](#)

Lau C, Butenhoff JL, Rogers JM. 2004. The developmental toxicity of perfluoroalkyl acids and their derivatives. *Toxicol Appl Pharmacol.* 198:231-41. [Abstract](#)

Grasty RC, Wolf DC, Grey BE, Lau C, Rogers JM. 2003. Prenatal window of susceptibility to perfluorooctane sulfonate-induced neonatal mortality in the Sprague-Dawley rat. *Birth Defects Res B Dev Reprod Toxicol.* 68:465-71. [Abstract](#)

Lau C, Thibodeaux JR, Hanson RG, Rogers JM, Grey BE, Stanton ME, Butenhoff JL, Stevenson LA. 2003. Exposure to perfluorooctane sulfonate during pregnancy in rat and mouse. II: Postnatal evaluation. *Toxicol Sci.* 74:382-92. [Abstract](#)

Thibodeaux JR, Hanson RG, Rogers JM, Grey BE, Barbee BD, Richards JH, Butenhoff JL, Stevenson LA, Lau C. 2003. Exposure to perfluorooctane sulfonate during pregnancy in rat and mouse. I: Maternal and prenatal evaluations. *Toxicol Sci.* 74:369-81. [Abstract](#)

Rogers EH, Hunter ES, Rosen MB, Rogers JM, Lau C, Hartig PC, Francis BM, Chernoff N. 2003. Lack of evidence for intergenerational reproductive effects due to prenatal and postnatal undernutrition in the female CD-1 mouse. *Reprod Toxicol.* 17:519-25. [Abstract](#)

Price OT, Lau C, Zucker RM. 2003. Quantitative fluorescence of 5-FU-treated fetal rat limbs using confocal laser scanning microscopy and lysotracker red. *Cytometry A.* 53:9-21. [Abstract](#)

Hu W, Jones PD, Upham BL, Trosko JE, Lau C, Giesy JP. 2002. Inhibition of gap junctional intercellular communication by perfluorinated compounds in rat liver and dolphin kidney epithelial cell lines *in vitro* and Sprague-Dawley rats *in vivo*. *Toxicol Sci.* 68:429-36. [Abstract](#)

Lau C, Narotsky MG, Lui D, Best D, Setzer RW, Mann PC, Wubah JA, Knudsen TB. 2002. Exposure-disease continuum for 2-chloro-2'-deoxyadenosine (2-CDA), a prototype teratogen: Induction of lumbar hernia in the rat and species comparison for the teratogenic responses. *Teratology.* 66:6-18. [Abstract](#)